2006-2007
Job No. HP-75-43S-06-01
Field Collection of Traffic Data

Scope of Work

Job No. **HP-75-43S-06-1** Field Collection of Traffic Data on Various Routes for Various Counties in District Nine.

The Consultant's work in 2006 will include collecting 24-hour machine volume counts at locations on unmarked routes throughout Jefferson, Johnson, and Williamson counties.

In 2007, the consultant will collect 24-hour machine volume/classification counts on the state primary system throughout District Nine. In addition, the Consultant's work in 2007 will include collecting 24-hour machine volume counts at locations throughout Alexander, Jackson, Pulaski, and Union counties.

The District reserves the right to substitute counties other than those listed.

In both 2006 and 2007, 24-hour machine volume counts will be required at structures and railroad crossings to meet federal and state guidelines.

All counts must be collected between 9:00am on Monday and 12:00 noon on Friday of the same week and not on the day before, the day of, or the day after a state holiday.

The department requires that the 24-hour volume/classification counts be collected with passive magnetic sensors (lane counters) and not with road tubes. For unmarked routes road tubes can be used to collect volume traffic data.

The department will furnish count site location maps and a list of traffic count locations for the Consultant's use in developing a count schedule approved by the department's project manager.

The Consultant must furnish all equipment and dependable and knowledgeable staff necessary to collect traffic count data in a manner that is safe to the public and the Consultant's employees. The machine counters used must be certified in advance by the project manager in District Nine. The Consultant must demonstrate a thorough knowledge of traffic counting procedures and the capability to furnish equipment and personnel to accomplish the project.

Field traffic data will be supplied to the department electronically in a Microsoft Access database table and in hard copy to the department's project manager. Field traffic data obtained by the consultant must be submitted to the department's project manager within ten working days of completion of the count.

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Machine counts conducted with passive magnetic sensors (lane counters) or road tubes will be paid for as follows:

1-3 lane counters – 1 pay unit
4-6 lane counters – 2 pay units
> 6 lane counters – 3 pay units

Listed below is the estimated number of counts in each category that will be collected. This number may vary either way by ten percent.

	Category	Estimated Pay Units **Year 2006**	**Year 2007**	Total Pay Units
1.	24-hour volume/classification	300	1,000	1,300
2.	24-hour road tube counts	1,550	1,050	2,600

Materials to be supplied to the Consultant:

- Count location tables in Microsoft Access database table format.
- GIS Work maps or shapefile showing location and identification number assigned to each field count.
- Vehicle classification scheme for use within the magnetic lane counter software for length classification.
- Numbering scheme for traffic count and invoice submittal to District Nine and the Central Office
- Copy of the new Illinois Traffic Monitoring Program (ITMP).
- Copy of the IDOT Bureau of Operations Traffic Control guide.

Pre-certification of Traffic Count Machines:

a) Every volume/classification machine shall be checked against a manual count of one hour at a location with an AADT of at least 2,000. The machine classification count must be within 5% of the manual count in each vehicle category (% may be adjusted for certain vehicle categories by the IDOT project manager) and must assign no more than 10% of total traffic to the “unclassified” category. The total traffic volume recorded by the machine must be within 3% of the total traffic volume determined by the manual count.

b) The consultant will perform certification manual counts and immediately submit them to IDOT. Certification counts may be conducted against machines during

actual field counting. These machines will then be downloaded at end of count and printouts will be provided immediately to IDOT for comparison.

c) Only machine traffic counters certified by the IDOT project manager may be used in field data collection.

d) If a machine develops problems during field data collection it must be removed from service, repaired and re-certified before it can be returned to service.

e) The IDOT project manager or his designee must be present during machine testing.

f) Machine volume/classification traffic counters must be capable of recording hourly traffic volumes.

Count Duration:

a) Machine volume/classification counts for the state primary system traffic survey and machine volume counts for county traffic surveys shall be of 24-hour duration.

Setting Counters:

a) All counts must be collected between 9:00am on Monday and 12:00 noon on Friday of the same week and not on the day before, the day of, or the day after a state holiday.

b) When pavement-mounted equipment is used, it must be securely attached to the pavement without causing undue distress or damage to the pavement. The consultant may be held liable in the event of pavement damage caused by the installation or removal of counting equipment.

c) When obtaining counts at railroad crossings or structures, the counters should be positioned so as to record the number of vehicles actually using the crossing or structure. If possible, avoid having traffic generators or intersections be-ween the counters and the crossing or structure.

d) Adhesives such as tape or glue used to secure counters or sensors to the pavement shall be applied in accordance with the manufacturer's instructions.

e) Magnetic lane counters are to be used for all counts. If magnetic counters can not be used at a location, road tubes can be used if approved by the IDOT Project Manager.

f) Tubes will be at right angles to the pavement. Tubes must be securely anchored to the pavement. All tubes must be in good condition without holes or foreign material in the tube. No tubes shall be installed across any sidewalk so as to cause a hazard to pedestrians.

Quality Control by the IDOT Project Manager:

a) The IDOT project manager will receive from the consultant a schedule of counter sets the Friday prior to the counts be taken.

b) The IDOT project manager or his designee may field check the machine sets at their discretion.

Timeframes:

a) All field data must be submitted to the IDOT project manager in Carbondale within 10 working days of completion of the count.

b) All recounts must be completed within 20 workdays of notification.

c) All initial counts must be completed by October 31 of each calendar year; all recounts must be completed satisfactorily by November 30, of each calendar year.

d) Any exceptions to the timeframes must be approved by the IDOT Project Manager.

Data Submittal:

a) Traffic count data collected from the magnetic lane counters will be submitted to IDOT staff in the following formats:

1) The raw traffic data that is downloaded from the traffic count equipment will be emailed to Springfield and the District Nine office or put on IDOT's public FTP site. Naming conventions for the ACCESS database will be provided by IDOT. The file my need to be zipped before emailing to IDOT.

2) A summary of the counts that corresponds with the Electronic submittal (#1 above) will be sent to Springfield (robinsonre@.dot.il.gov) The 24-hour count totals will be documented in a Microsoft Access database table or EXCEL spreadsheet attached to the email message. IDOT will specify the design of the submittal.

b) The documentation required for magnetic lane counters will be contained in the electronic submittal from the traffic counter software. If road tubes are approved for a location by the Project manager, hard copy reports of the individual counters will be submitted to the IDOT project manager.

c) IDOT will process all field counts to AADT.

d) All traffic count data will be the property of the state of Illinois.

Recounts:

a) Counts accepted shall be based upon successful processing and editing of the field count data. Counts that are not acceptable for any reason shall be redone and resubmitted. If a recount is within 10% of the original count, the Consultant will be paid for both the original count and the recount. If the recount is not within 10% of the original count, the Consultant will be paid for the recount only.

b) The IDOT project manager may require the Consultant to recount specific locations at the Consultant's expense if any of the following conditions are found during review of the count data:

1. Machine malfunctioned.
2. Machine assigned 10% or more of total traffic to the "unclassified" category.
3. Traffic count was conducted at the wrong location or for the wrong duration.
4. Traffic count was affected by an abnormal occurrence such as a construction detour, special event or other cause that could be recognized by the Consultant's personnel.
5. Traffic count was not continuous (and simultaneous if more than one machine was used at a count location) over the minimum duration specified.
6. Traffic counter used to collect the data was not certified.
7. Electronic documentation was not complete.
8. The quality control check detects any deviation from the data collection procedures outlined in the *AASHTO Guidelines for Traffic Data Programs*, the *FHWA Traffic Monitoring Guide* and the *IDOT Traffic Monitoring Program*.

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Pay Units

a. Machine counts conducted with passive magnetic sensors (lane counters) will be paid for as follows:

1-3 lane counters – 1 pay unit
4-6 lane counters – 2 pay units
> 6 lane counters – 3 pay units

b. If the count location contains 2 and 4 lanes stretches, the count should be taken on the 2 lane portion, if visibility and safety permits the count.

c. Machine counts conducted with road tubes will be paid for on a per-machine basis. A count location requiring only one machine for both directions of travel will be considered one pay unit; a location requiring one machine for each direction of travel will be considered two pay units.

Product Specifications

24-Hour Volume/Classification Counts:

a) Field collect 24 consecutive hours.
b) Provide three vehicle categories (passenger vehicles, single-unit trucks and multi-unit trucks) by length.
c) Provide hourly totals for each vehicle category.
d) Provide 24-hour totals for each vehicle category.